

Third Quarter 2005 Groundwater Monitoring Report

**Branscomb Store
Branscomb, California
Case No. 1TMC214**

Prepared for:

Harwood Products



Consulting Engineers & Geologists, Inc.

812 W. Wabash Ave.
Eureka, CA 95501-2138
707/44108855

September 2005
092057



CONSULTING ENGINEERS & GEOLOGISTS, INC.

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Reference: 092057

September 6, 2005

Ms. Bonnie Rolandelli
California Regional Water Quality Control Board
North Coast Region
5550 Skylane Boulevard, Suite A
Santa Rosa, CA 95403

**Subject: Third Quarter 2005 Groundwater Monitoring Report, Branscomb Store
1 Main Street, Branscomb, California; Case No. 1TMC214**

Dear Ms. Rolandelli:

SHN Consulting Engineers & Geologists, Inc. (SHN), on behalf of Harwood Products, is submitting this third quarter 2005, groundwater monitoring report for the Branscomb Store, located at 1 Main Street in Branscomb, California. SHN conducted the groundwater-monitoring event on July 6, 2005.

If you have any questions, please do not hesitate to call me at 707-441-8855.

Sincerely,

SHN Consulting Engineers & Geologists, Inc.



Frans Lowman, R.G.
Project Manager

FBL/SLD:lms:ap
Enclosure: Report
copy w/encl: Michael Patrick, Harwood Products

Reference: 092057

Third Quarter 2005 Groundwater Monitoring Report

**Branscomb Store
Branscomb, California
Case No. 1TMC214**

Prepared for:

Harwood Products

Prepared by:



Consulting Engineers & Geologists, Inc.
812 W. Wabash Ave.
Eureka, CA 95501-2138
707-441-8855

September 2005

QA/QC: FBL____

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Acronyms and Abbreviations

<	denotes a value that is "less than" the method detection limit
mV	millivolts
ppm	parts per million
ug/L	micrograms per Liter

BTEX	Benzene, Toluene, Ethylbenzene, and total Xylenes
DIPE	Diisopropyl Ether
DCO ₂	Dissolved Carbon Dioxide
DO	Dissolved Oxygen
ETBE	Ethyl Tertiary-Butyl Ether
EPA	U.S. Environmental Protection Agency
MCDEH	Mendocino County Division of Environmental Health
MSL	Mean Sea Level
MTBE	Methyl Tertiary-Butyl Ether
MW-#	Monitoring Well-#
NA	Not Analyzed
NR	No Reference
ORP	Oxidation-Reduction Potential
RWQCB	California Regional Water Quality Control Board, North Coast Region
SHN	SHN Consulting Engineers & Geologists, Inc.
TAME	Tertiary-Amyl Methyl Ether
TBA	Tertiary-Butyl Alcohol
TPHG	Total Petroleum Hydrocarbons as Gasoline
UST	Underground Storage Tank

1.0 Introduction

This report presents the results of groundwater monitoring conducted at the Branscomb Store for the third quarter of 2005. The site is located at 1 Main Street in the community of Branscomb, California (Figure 1). SHN Consulting Engineers & Geologists, Inc. (SHN) performed this work on July 6, 2005, on behalf of Harwood Products.

1.1 Organization

This report is presented in 5 sections. This section introduces the reader to the site. Section 2.0 discusses the scope of work completed at the site during the third quarter 2005 monitoring event, including groundwater sampling. Section 3.0 presents the results of the groundwater-monitoring program. Section 4.0 presents conclusions regarding the nature of the site, as well as recommendations for future site activities. Section 5.0 consists of a list of references cited.

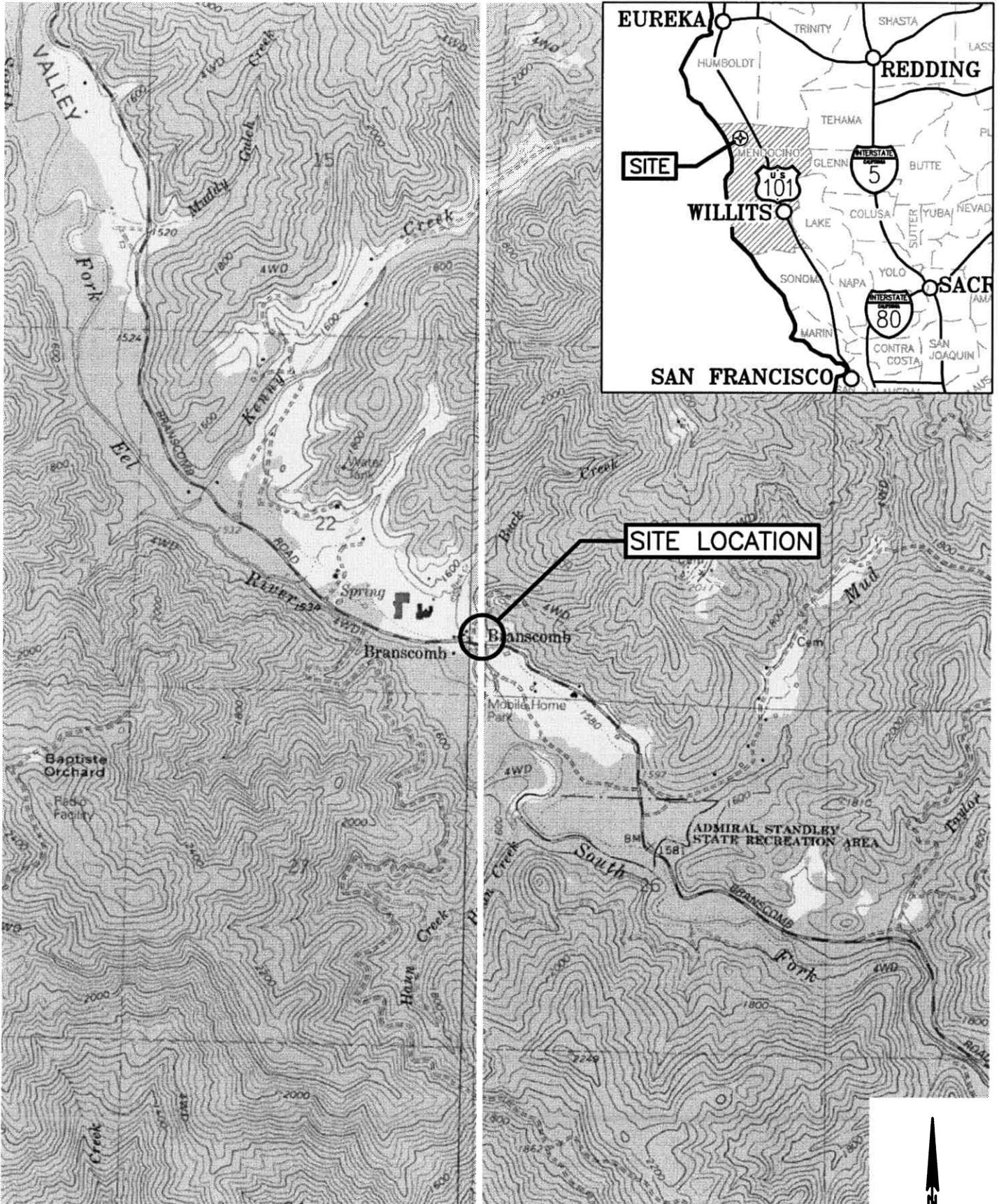
1.2 Site Background

Branscomb Store contains an active retail fueling station that operates with an aboveground storage tank system. Two 1,000-gallon gasoline Underground Storage Tanks (USTs) and one 500-gallon gasoline UST were operated at the site from the late 1950s until 1990. In October 1991, the 3 USTs were removed from the site. A representative from the Mendocino County Division of Environmental Health (MCDEH) was present during the tank removals and completed an "Underground Hazardous Materials Storage Tank Abandonment Inspection Report." According to the MCDEH report, the former tanks were of single-walled steel construction and all were noted to contain small holes that may have been attributable to corrosion. Approximately 50 cubic yards of soil were excavated during the tank removal activities. The former UST locations are shown on Figure 2.

During the UST removals, a series of soil samples was collected from the former tank locations. The soil samples were analyzed for Total Petroleum Hydrocarbons as Gasoline (TPHG); Benzene, Toluene, Ethylbenzene, and total Xylenes (BTEX); and total lead. Laboratory analyses of the soil samples that were collected revealed detectable concentrations of petroleum hydrocarbons.

SHN conducted a limited subsurface investigation at the site in April 1997. Five exploratory soil borings were installed in the area of the former USTs. Temporary well points were then installed in each boring for the collection of a groundwater sample. Information collected during this investigation indicated that groundwater at the Branscomb Store site had been impacted by petroleum hydrocarbons. The extent of petroleum hydrocarbon-impacted groundwater appeared to be limited to the immediate area around the former UST locations.

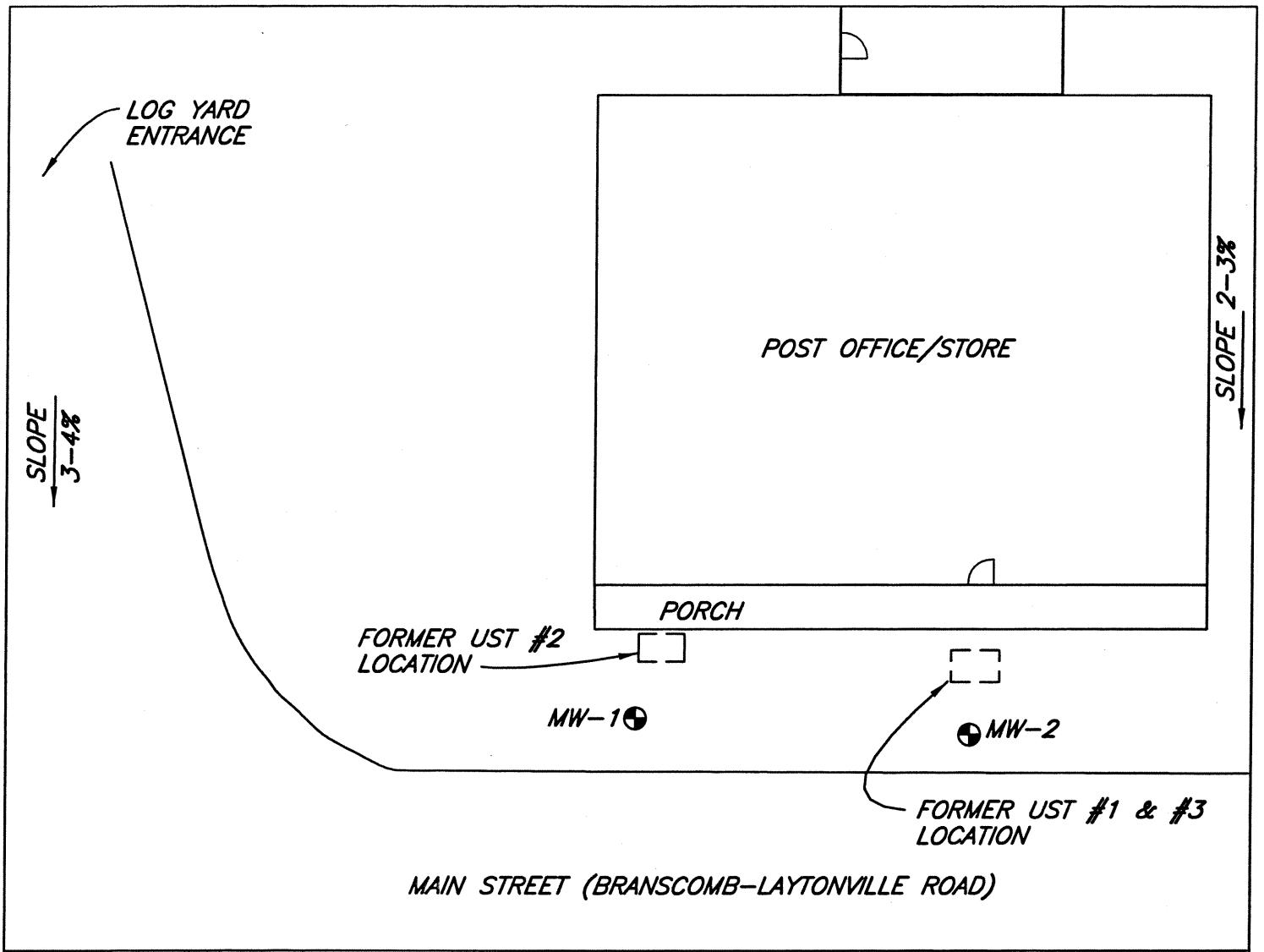
In January 2000, SHN supervised the installation of four groundwater-monitoring wells (MW-1 through MW-4) at the Branscomb Store site, as approved by the California Regional Water Quality Control Board, North Coast Region (RWQCB) on February 11, 1998 (SHN, 2000).



SOURCE: CAHTO PEAK & LINCOLN RIDGE
USGS 7.5 MINUTE
QUADRANGLE

1"=2000'±

 Consulting Engineers & Geologists, Inc.	Branscomb Store 1 Main Street Banscomb, California	Site Location Map SHN 092057
MAY 2005	092057-LOCATION	Figure 1



Quarterly monitoring was initiated at the Branscomb Store site on February 22, 2000, as required by the RWQCB. Groundwater monitoring occurred at the site for a period of one year, but was not conducted for the following 3 years. On August 13, 2004, quarterly groundwater monitoring was resumed at the site and is ongoing.

In February 2005, SHN conducted a sensitive receptor survey, using a 1,000-foot search radius from the Branscomb Store site. As described at length in the February 2005 *Work Plan for Additional Site Investigation* (SHN, 2005), the results of the survey did not reveal any known or potential sensitive receptors within the designated search radius that may be impacted from known contaminated groundwater at the Branscomb Store site.

On February 3, 2005, SHN submitted a work plan for additional site investigation to the RWQCB, for the purpose of assessing soil and groundwater conditions downgradient of the former UST locations, as well as the area downgradient of monitoring well MW-2. The work plan was subsequently approved by the RWQCB in a letter dated May 26, 2005.

2.0 Field Activities

2.1 Monitoring Well Sampling

SHN conducted the third quarter 2005, groundwater-monitoring event on July 6, 2005. As part of the monitoring program, monitoring wells MW-1, MW-2, MW-3, and MW-4 (Figure 2) were purged and sampled. Prior to purging, each monitoring well was measured for depth-to-water, and checked for the presence of floating product (none was observed). Electrical conductivity, pH, and temperature were monitored periodically during purging activities using portable instruments. All wells were also measured for Dissolved Oxygen (DO), Oxidation-Reduction Potential (ORP), and Dissolved Carbon Dioxide (DCO₂).

A groundwater sample was then collected from each well using a disposable polyethylene bailer. The water samples were immediately placed in an ice-filled cooler and submitted to the laboratory for analysis under appropriate chain-of-custody documentation. Field notes and water sampling data sheets from the July 6, 2005, monitoring event are included in Appendix A.

2.2 Laboratory Analysis

Each groundwater sample was analyzed for:

- TPHG, BTEX, and fuel oxygenates Methyl Tertiary-Butyl Ether (MTBE), Tertiary-Butyl Alcohol (TBA), Tertiary-Amyl Methyl Ether (TAME), Diisopropyl Ether (DIPE), and Ethyl Tertiary-Butyl Ether (ETBE), in general accordance with U.S. Environmental Protection Agency (EPA) Method No. 8260B.

North Coast Laboratories Ltd., a California-certified analytical laboratory located in Arcata, California, performed the sample analyses.

2.3 Equipment Decontamination Procedures

All monitoring and sampling equipment was cleaned prior to being transported to the Branscomb Store site. All smaller equipment was initially washed in a water solution containing Liquinox® cleaner, followed by a distilled water rinse, then by a second distilled water rinse.

2.4 Investigation-Derived Waste Management

All rinse water used for decontaminating field-sampling equipment and all well purge water was temporarily stored on-site in five-gallon plastic buckets. The water was then transported to SHN's 1,000-gallon purge water storage tank located at 812 West Wabash Avenue in Eureka, California. Approximately 34 gallons of decontamination and purge water from the July 6, 2005, sampling event will be tested and discharged, under permit, to the City of Eureka municipal sewer system. A copy of the discharge receipt will be included in the next quarterly monitoring report. Appendix A contains the discharge receipt for the 32 gallons of water that were generated during the April 20, 2005, monitoring event.

3.0 Groundwater Monitoring Results

3.1 Hydrogeology

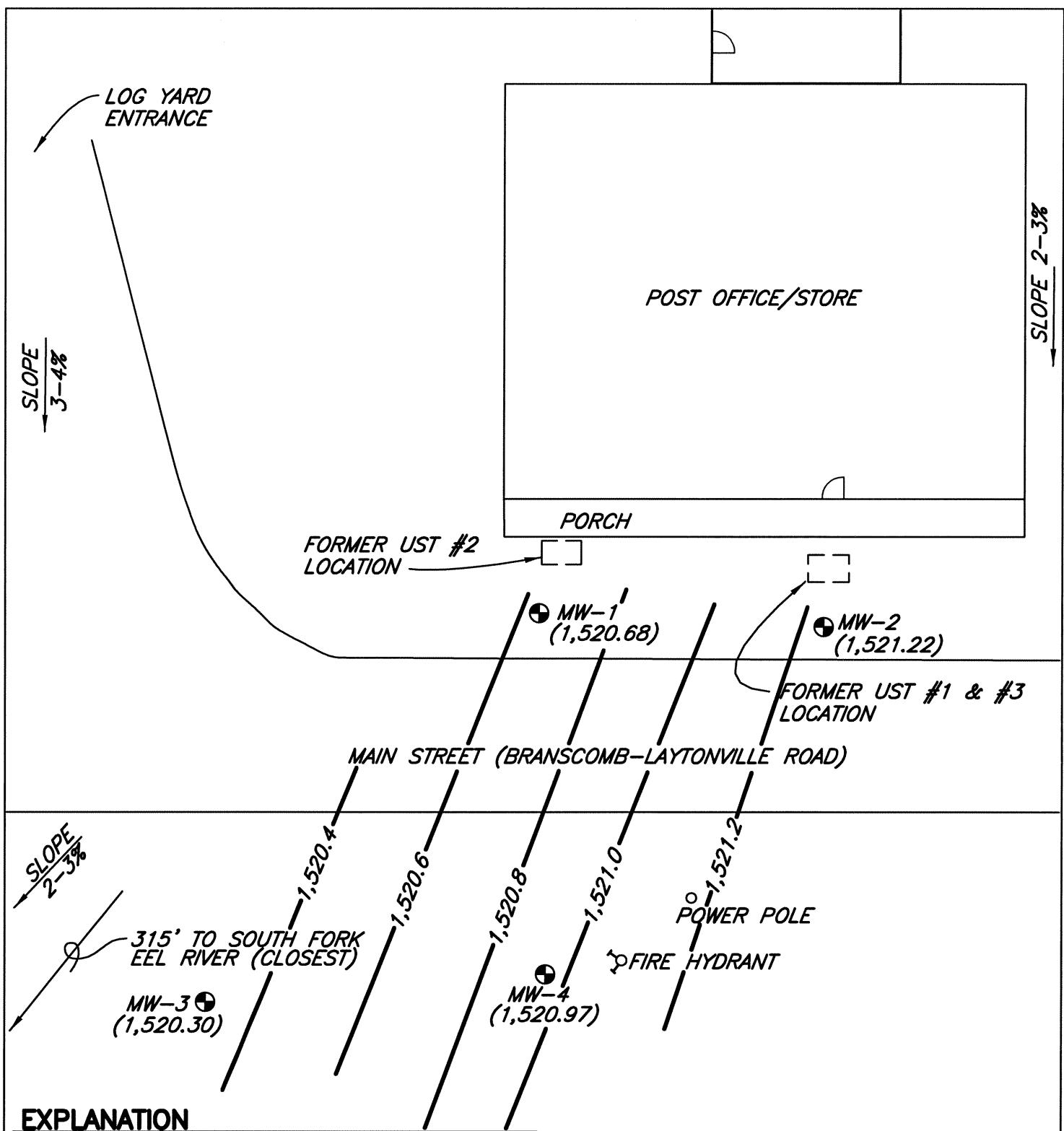
SHN measured depth-to-groundwater in the existing monitoring wells during the third quarter 2005 monitoring event (Table 1). On July 6, 2005, the direction of groundwater flow beneath the Branscomb Store site was to the west-northwest, with an estimated gradient of 0.016. A groundwater contour map for the July 6, 2005, monitoring event is presented as Figure 3. Historic groundwater elevation data are presented in Appendix B, Table B-1.

Table 1 Groundwater Elevations, July 6, 2005 Branscomb Store, California			
Sample Location	Top of Casing Elevation (feet MSL)¹	Depth to Groundwater² (feet)	Groundwater Elevation (feet MSL)
MW-1	1,529.31	8.63	1520.68
MW-2	1,529.67	8.45	1521.22
MW-3	1,526.61	6.31	1520.30
MW-4	1,528.32	7.35	1520.97

1. MSL: Mean Sea Level 2. Below top of casing

3.2 Groundwater Analytical Results

The laboratory analytical results for the groundwater samples collected during the third quarter 2005, monitoring event are summarized in Table 2. TPHG was detected in the groundwater sample collected from monitoring well MW-2 at a concentration of 330 micrograms per Liter (ug/L). None of the other groundwater samples collected contained detectable concentrations of TPHG, BTEX, or



EXPLANATION

MW-2 GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION

(1,521.14) GROUNDWATER ELEVATION IN FEET ABOVE MSL

-1,520.8- CONTOUR OF EQUAL GROUNDWATER ELEVATION

HYDRAULIC GRADIENT=0.016

1"=20'

ALL LOCATIONS ARE APPROXIMATE

fuel oxygenates. The concentrations of TPHG, benzene, and MTBE in the existing groundwater monitoring wells on July 6, 2005, are shown on Figure 4. The complete laboratory analytical report and corresponding chain-of-custody documentation are included in Appendix C. Historic groundwater analytical data are presented in Appendix B, Table B-2.

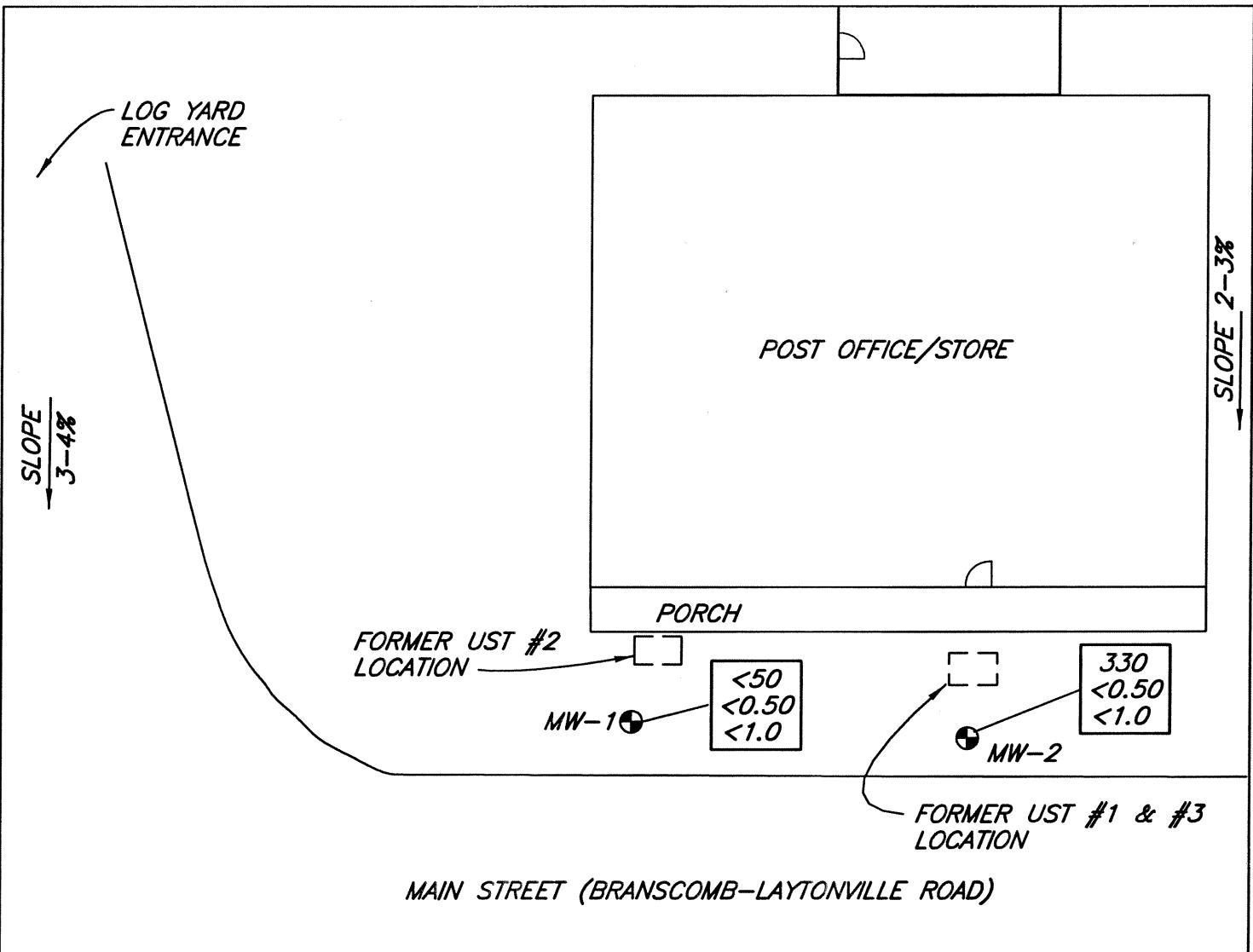
Table 2
Groundwater Analytical Results, July 6, 2005
Branscomb Store, Branscomb, California
(in ug/ L)¹

Sample Location	TPHG ²	B ³	T ³	E ³	X ³	MTBE ⁴	TBA ⁴	DIPE ⁴	ETBE ⁴	TAME ⁴
MW-1	<50 ⁵	<0.50	<0.50	<0.50	<0.50	<1.0	<10	<1.0	<1.0	<1.0
MW-2	330 ⁶	<0.50	<0.50	<0.50	<0.50	<1.0	<10	<1.0	<1.0	<1.0
MW-3	<50	<0.50	<0.50	<0.50	<0.50	<1.0	<10	<1.0	<1.0	<1.0
MW-4	<50	<0.50	<0.50	<0.50	<0.50	<1.0	<10	<1.0	<1.0	<1.0

1. ug/L: micrograms per Liter
2. TPHG: Total Petroleum Hydrocarbons as Gasoline, analyzed in general accordance with U.S. Environmental Protection Agency (EPA) Method No. 8260B
3. Benzene (B), Toluene (T), Ethylbenzene (E), and total Xylenes (X), analyzed in general accordance with EPA Method No. 8260B
4. Methyl Tertiary-Butyl Ether (MTBE), Tertiary-Butyl Alcohol (TBA), Diisopropyl Ether (DIPE), Ethyl Tertiary-Butyl Ether (ETBE), and Tertiary-Amyl Methyl Ether (TAME), analyzed in general accordance with EPA Method No. 8260B
5. <: denotes a value that is "less than" the method detection limit.
6. Sample does not present a peak pattern consistent with that of gasoline. The reported result represents the amount of material in the gasoline range.

3.3 Natural Attenuation Parameters

DO, DCO₂, and ORP were measured prior to sampling in all four groundwater monitoring wells on July 6, 2005, and are summarized in Table 3. DO concentrations ranged from 0.75 parts per million (ppm) in well MW-4, to 1.98 ppm in well MW-3. These DO concentrations appear to be sufficient to support biodegradation. DCO₂ concentrations ranged from 20 ppm in wells MW-3 and MW-4, to 120 ppm in well MW-2, and indicate that biodegradation is occurring at the site. ORP measurements ranged from -31 millivolts (mV) in well MW-2, to 168 mV in well MW-3, indicating that anaerobic conditions are present in the source area (well MW-2) and aerobic conditions are present in other areas of the site. Historic DO, DCO₂, and ORP measurements are included in Appendix B, Table B-3.



EXPLANATION

MW-2 GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION

*330
<0.50
<1.0* TPHG BENZENE MTBE CONCENTRATIONS IN ug/L



1"=20'

ALL LOCATIONS ARE APPROXIMATE

SW Consulting Engineers & Geologists, Inc.	Branscomb Store 1 Main Street Branscomb, California	Summary of Groundwater Analytical Results, July 6, 2005 SHN 920057
	July, 2005	920057-SUM-GAR-july-2005

Table 3 DO, DCO₂, and ORP Measurement Results, July 6, 2005 Branscomb Store, Branscomb, California			
Sample Location	DO¹ (ppm)²	DCO₂³ (ppm)	ORP⁴ (mV)⁵
MW-1	0.79	60	168
MW-2	0.78	120	-31
MW-3	1.98	20	144
MW-4	0.75	20	164

1. DO: Dissolved Oxygen, field measured using portable instrumentation.
 2. ppm: parts per million
 3. DCO₂: Dissolved Carbon Dioxide, field measured using a test kit.
 4. ORP: Oxidation-Reduction Potential, measured using portable instrumentation.
 5. mV: millivolts

When evaluating intrinsic bioremediation, it is useful to compare groundwater parameters collected within the contaminant plume to groundwater parameters collected from outside of the contaminant plume. The groundwater analytical results from this monitoring event indicate that petroleum hydrocarbons are present in the area of well MW-2. Groundwater collected from wells MW-3 and MW-4 is representative of background conditions. For this evaluation, wells MW-2 (source area well) and MW-3 (downgradient well) were used. As shown in Table 4, all indicators follow the trend that would be expected when biodegradation is occurring.

Table 4 Intrinsic Bioremediation Indicator Comparison, July 6, 2005 Branscomb Store, Branscomb, California					
Groundwater Bioremediation Parameter	Units	Expected Trend for Source Well Related to Background	Source Well MW-2	Down-gradient Well MW-3	Consistent with Trend
Petroleum Hydrocarbon Concentration	ug/L ¹	Increases	330	<50	Yes
Dissolved Oxygen	ppm ²	Decreases	0.78	1.98	Yes
Dissolved Carbon Dioxide	ppm	Increases	120	20	Yes
Oxidation-Reduction Potential	mV ³	Decreases	-31	144	Yes

1. ug/L: micrograms per liter
 2. ppm: parts per million
 3. mV: millivolts

4.0 Discussion and Recommendations

During the third quarter 2005, monitoring event, the groundwater sample collected from monitoring well MW-2 contained TPHG at a concentration of 330 ug/L. No detectable concentrations of BTEX components, or fuel oxygenates were present in the groundwater sample collected from this well. The groundwater samples collected from wells MW-1, MW-3, and MW-4 during this event did not contain any detectable concentrations of TPHG, BTEX, or fuel oxygenates.

On February 3, 2005, SHN submitted a work plan to the RWQCB to further assess soil and groundwater conditions downgradient of the former UST locations and monitoring well MW-2. In a letter dated May 26, 2005, the RWQCB approved the additional site investigation workplan. SHN conducted the additional field investigation work on August 31, 2005. Once the results of the additional site investigation are received, a report of findings will be prepared for submittal to the RWQCB.

5.0 References Cited

SHN Consulting Engineers & Geologists, Inc. (April 2000). "Well Installation Report of Findings, Harwood Products Branscomb Store, Branscomb, CA." Eureka: SHN.

---. (2005). "Work Plan for Additional Site Investigation, Branscomb Store, Branscomb, CA." Eureka: SHN.

Appendix A
Field Notes



CONSULTING ENGINEERS & GEOLOGISTS, INC.

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DAILY FIELD REPORT

JOB NO 092057

Page 1 of 8

PROJECT NAME <i>Beanscomb Store</i>	CLIENT/OWNER <i>Harwood Products</i>	DAILY FIELD REPORT SEQUENCE NO <i>1</i>
GENERAL LOCATION OF WORK <i>Beanscomb, CA</i>	OWNER/CLIENT REPRESENTATIVE <i>Michael Patrick</i>	DATE <i>7-6-05</i> DAY OF WEEK <i>Wednesday</i>
TYPE OF WORK <i>Quarterly Sampling</i>	WEATHER <i>Clear</i>	PROJECT ENGINEER/ SUPERVISOR <i>Frans Lowman</i>
SOURCE & DESCRIPTION OF FILL MATERIAL	KEY PERSONS CONTACTED	TECHNICIAN <i>David R. Paine</i>

DESCRIBE EQUIPMENT USED FOR HAULING, SPREADING, WATERING, CONDITIONING, & COMPACTING

- 0831 Arrived at site, located 3 out 4 wells, had to have 4th well dug out with a backhoe (mw-3), then I removed lids and caps on all 4 wells, mw-2 had water in flush mount, bailed out.
- 0922 I started taking water level readings decommissioning the sounder after each well by scrubbing it with ligninot then rinsing it with DI water.
- 0937 I started taking DO readings.
- 1008 I started purging mw-4 with a disposable bailer, purge water was caught in a graduated 5 gal. bucket, well went dry.
- 1040 I started purging mw-3 with a disposable bailer, purge water was caught in a graduated 3 gal. bucket, well went dry.
- 1123 I started purging mw-1 with a disposable bailer, purge water was caught in a graduated 5 gal. bucket.
- 1153 I started purging mw-2 with a disposable bailer, purge water was caught in a graduated 5 gal. bucket.
- 1225 I sampled mw-4, secured well with cap and lid.
- 1235 I sampled mw-3 secured well with cap and lid.
- 1245 I sampled mw-1 secured well with cap and lid.
- 1255 I sampled mw-2, secured well with cap and lid.
- 1313 OFF SITE

Note: All decom water and purge water was caught in 5 gal. buckets with lids then transported to SHN's 1,000 gal. PWST located at 812 W. Wabash Avenue Eureka, CA 34 gals. total.

COPY GIVEN TO:

REPORTED BY:

David R. Paine



CONSULTING ENGINEERS & GEOLOGISTS, INC.

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Groundwater Elevations

EQUIPMENT CALIBRATION SHEET

Name: David R. Paine

Project Name: Branscomb Stn

Reference No.: 092057

Date: 7-6-05

Equipment: pH & EC PID GTCO₂ GTLEL
 Turbidity Other Dissolved Oxygen Meter YS195

Description of Calibration Procedure and Results:

pH & EC meter is calibrated using a 2 buffer method with 7.01 and 4.01, the EC (conductivity) is set at 1413 μS.

D Dissolved Oxygen meter is self calibrating with the Altimeter set at 15.



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Water Sampling Data Sheet

Project Name:	Branscomb Store	Date/Time:	7-6-05
Project No.:	092057	Sampler Name:	David R. Paine
Location:	Branscomb, CA	Sample Type:	Ground water
Well #:	MW-1	Weather:	Clear
Hydrocarbon Thickness/Depth (feet):	N/A	Key Needed:	YES Dolphin

Total Well Depth (feet)	-	Initial Depth to Water (feet)	=	Height of Water Column (feet)	\times	0.163 gal/ft (2-inch well) / 0.653 gal/ft (4-inch well)	=	1 Casing Volume (gal)
14.95	-	8.63	=	6.32	\times	0.163	=	1.03

Time	DO (ppm)	CO ₂ (ppm)	ORP (mV)	EC (uS/cm)	Temp (°F)	pH	Water Removed (gal)	Comments
0954	0.79						0 gal.	
1123	60	168					0.25 gal.	
1131	↓			132	63.7°	5.68	1.25 gal.	
1135	No Flow			130	62.9°	5.78	2.25 gal.	
1139	Thru cell			130	62.9°	5.80	3.25 gal.	
1142				128	63°	5.82	4.25 gal.	
1245	Sample Time							

Purge Method: Hand Bag

Total Volume Removed: 4.25 (gal)

Laboratory Information

Sample ID	# & Type of Containers	Preservative / Type	Laboratory	Analyses
MW-1	3 - 40ml vials	YES HCL	NCL	TPHG / BSGC / MPPC 8260 1st A 1

Well Condition: Good. Lid pushes down on security plug.

Remarks:

Allocated to 8.64 at sampling Time



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Water Sampling Data Sheet

Project Name:	<u>Branscomb</u>	Site:	Date/Time:	<u>7-6-05</u>
Project No.:	<u>092057</u>		Sampler Name:	<u>David R. Paine</u>
Location:	<u>Branscomb, CA</u>		Sample Type:	<u>Ground water</u>
Well #:	<u>MW-2</u>		Weather	<u>Clear</u>
Hydrocarbon Thickness/Depth (feet):		<u>NH</u>	Key Needed:	<u>YES</u> <u>Dolphin</u>

$$\begin{array}{l} \text{Total Well Depth} \\ \text{(feet)} \end{array} - \begin{array}{l} \text{Initial Depth to} \\ \text{Water (feet)} \end{array} = \begin{array}{l} \text{Height of Water} \\ \text{Column (feet)} \end{array} \times \begin{array}{l} 0.163 \text{ gal/ft (2-inch well) /} \\ 0.653 \text{ gal/ft (4-inch well)} \end{array} = \begin{array}{l} 1 \text{ Casing Volume} \\ (\text{gal}) \end{array}$$

<u>14.60</u>	-	<u>8.45</u>	=	<u>6.15</u>	×	<u>0.163</u>	=	<u>1.00</u>
--------------	---	-------------	---	-------------	---	--------------	---	-------------

Time	DO (ppm)	CO ₂ (ppm)	ORP (mV)	EC (uS/cm)	Temp (°F)	pH	Water Removed (gal)	Comments
1001	<u>0.78</u>						<u>0 gal</u>	
1153		<u>120</u>	<u>-31</u>				<u>0.25 gal</u>	
1201				<u>414</u>	<u>65.2°</u>	<u>6.30</u>	<u>1 gal</u>	
1205	No Flow			<u>422</u>	<u>64.1°</u>	<u>6.40</u>	<u>2 gal</u>	
1209	HAN call			<u>416</u>	<u>63.9°</u>	<u>6.44</u>	<u>3 gal</u>	
1212				<u>382</u>	<u>64.1°</u>	<u>6.40</u>	<u>4 gal</u>	
1255	Samp/ Time							

Purge Method: Hand BailTotal Volume Removed: 4.00 (gal)

Laboratory Information

Sample ID	# & Type of Containers	Preservative / Type	Laboratory	Analyses
MW-2	3 - 4cm Uwi's	YES HCL	NCL	<u>8260 1st/1</u> <u>TPHG/BTEX/MPC</u>

Well Condition: Ring and lid separated from skirt and cement seal.

Remarks:

Recharged to 8.69 at sampling Time



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Water Sampling Data Sheet

Project Name:	<u>Branscomb Store</u>	Date/Time:	<u>7-6-05</u>
Project No.:	<u>092057</u>	Sampler Name:	<u>David R. Paine</u>
Location:	<u>Branscomb, CA</u>	Sample Type:	<u>Ground water</u>
Well #:	<u>MW-3</u>	Weather	<u>Clear</u>
Hydrocarbon Thickness/Depth (feet):	<u>NA</u>	Key Needed:	<u>YES</u> <u>Dolphin</u>

$$\begin{array}{l} \text{Total Well Depth} \quad \text{Initial Depth to} \quad = \quad \text{Height of Water} \\ \text{(feet)} \quad \text{Water (feet)} \quad \quad \quad \text{Column (feet)} \quad \times \quad \begin{array}{l} 0.163 \text{ gal/ft (2-inch well)} / \\ 0.653 \text{ gal/ft (4-inch well)} \end{array} = \quad \begin{array}{l} 1 \text{ Casing Volume} \\ (\text{gal}) \end{array} \\ \boxed{20.10} \quad - \quad \boxed{4.31} \quad = \quad \boxed{13.79} \quad \times \quad \boxed{0.163} \quad = \quad \boxed{2.25} \end{array}$$

Time	DO (ppm)	CO ₂ (ppm)	ORP (mV)	EC (uS/cm)	Temp (°F)	pH	Water Removed (gal)	Comments
0948	1.98						0 gal.	
1040		20	144				0.25 gal.	
1048	↓			420	63.6°	7.09	2.25 gal.	
1054	No Flow			413	61.4°	7.39	4.50 gal.	
1059	Hand call			417	61°	7.47	6.25 gal.	
1105				418	61°	7.57	9 gal.	
1112				409	60.5°	7.70	10.50 gal.	Dry
1147				393	61.5°	7.64	12 gal.	Dry
1235	Samp + Time							

Purge Method: Hand BailTotal Volume Removed: 12.00 (gal)

Laboratory Information

Sample ID	# & Type of Containers	Preservative / Type	Laboratory	Analyses
MW-3	3 4cm1 vials	YES HCL	NCL	8260 list / TPHG / BTEX / MTBE

Well Condition: Good, buried under a steel plate about 4" down,

Remarks:

Recharged to 14.44 at sampling time



CONSULTING ENGINEERS & GEOLOGISTS, INC.

812 W. Webash • Eureka, CA 95501-2138 • 707/441-8855 • FAX: 707/441-8877 • shninfo@shn-enr.com

Water Sampling Data Sheet

Project Name:	<u>Branscomb Store</u>	Date/Time:	<u>7-6-05</u>
Project No.:	<u>092059</u>	Sampler Name:	<u>David R. Payne</u>
Location:	<u>Branscomb, CA</u>	Sample Type:	<u>Ground water</u>
Well #:	<u>MW-4</u>	Weather	<u>clear</u>
Hydrocarbon Thickness/Depth (feet):	<u>NA</u>	Key Needed:	<u>YES</u> <u>Dolphin</u>

$$\begin{array}{lcl} \text{Total Well Depth} & \text{Initial Depth to} & \text{Height of Water} \\ \text{(feet)} & \text{Water (feet)} & \text{Column (feet)} \\ \boxed{19.40} & \boxed{7.35} & = \boxed{12.05} \end{array} \times \begin{array}{l} 0.163 \text{ gal/ft (2-inch well) /} \\ 0.653 \text{ gal/ft (4-inch well)} \end{array} = \begin{array}{l} 1 \text{ Casing Volume} \\ (\text{gal}) \end{array} = \boxed{1.96}$$

Time	DO (ppm)	CO ₂ (ppm)	ORP (mV)	EC (uS/cm)	Temp (°F)	pH	Water Removed (gal)	Comments
0942	0.75						0 gal.	
1008	20	164					0.25 gal.	
1016	↓			407	62.6°	6.89	2 gal.	
1020	No Flow			457	61.5°	7.23	4 gal.	
1025	Han call			466	61°	7.43	6 gal.	
1031				462	60.8°	7.62	8 gal.	
1035				465	61.6°	7.64	9 gal. DRY	
1117				431	61.5°	7.60	10 gal. DRY	
1225	Sample Time							

Purge Method: Hand BailTotal Volume Removed: 10.00 (gal)

Laboratory Information

Sample ID	# & Type of Containers	Preservative / Type	Laboratory	Analyses
MW-4	3 - 4cm UVR's	YES HCL	NCL	8260 list 1 TPHC / BTEX / MTBE

Well Condition: Good, under a steel plate.

Remarks:

Recharge to 14.24 at sampling Time

Client Name: **BRANSCOMB STORE**

The water from your site: **1 MAIN STREET BRANSCOMB, CA
RWQCB CASE # 1TMC214**

SHN ref #: **092057** Collected On: **4/20/05**

Has been tested and certified as acceptable to be discharged into the City of Eureka municipal sewer system.

Amount Discharged: **32 GALLONS**

Date Discharged: **5/23/05**

Certified by: **DAVID R. PINE**

SHN CONSULTING ENGINEERS & GEOLOGISTS, INC.
City of Eureka Wastewater Discharge Permit #65

Appendix B

Historic Monitoring Data

Table B-1
Historic Groundwater Elevations
Branscomb Store, Branscomb, California

Sample Location	Date	Top of Casing Elevation (feet MSL) ¹	Depth to Water (feet) ²	Groundwater Elevation (feet MSL)
MW-1	2/22/00	1,529.31	7.74	1,521.57
	5/16/00		8.66	1,520.65
	10/27/00		9.00	1,520.31
	1/2/01		8.63	1,520.68
	8/13/04		8.98	1,520.33
	11/8/04		8.73	1,520.58
	1/19/05		8.28	1,521.03
	4/20/05		8.39	1,520.92
	7/6/05		8.63	1,520.68
MW-2	2/22/00	1,529.67	8.13	1,521.54
	5/16/00		8.42	1,521.25
	10/27/00		9.00	1,520.67
	1/2/01		8.52	1,521.15
	8/13/04		8.90	1,520.77
	11/8/04		8.63	1,521.04
	1/19/05		7.94	1,521.73
	4/20/05		8.08	1,521.59
	7/6/05		8.45	1,521.22
MW-3	2/22/00	1,526.61	5.92	1,520.69
	5/16/00		6.34	1,520.27
	10/27/00		6.55	1,520.06
	1/2/01		6.32	1,520.29
	8/13/04		6.51	1,520.10
	11/8/04		6.34	1,520.27
	1/19/05		6.00	1,520.61
	4/20/05		6.10	1,520.51
	7/6/05		6.31	1,520.30
MW-4	2/22/00	1,528.32	6.98	1,521.34
	5/16/00		7.40	1,520.92
	10/27/00		7.69	1,520.63
	1/2/01		7.43	1,520.89
	8/13/04		7.69	1,520.63
	11/8/04		7.41	1,520.91
	1/19/05		7.05	1,521.27
	4/20/05		7.18	1,521.14
	7/6/05		7.35	1,520.97

1. MSL: Mean Sea Level

2. Below top of casing

Table B-2
Historic Groundwater Analytical Results
Transcomb Store, Transcomb, California
(in ug/L)¹

Sample Location	Date	TPHG ²	Benzene ³	Toluene ³	Ethy-benzene ³	Total Xylenes ³	MTBE ⁴	TBA ⁴	DIPE ⁴	ETBE ⁴	TAME ⁴
MW-1	2/22/00	170	<0.50 ⁵	<0.50	<0.50	1.1	<3.0	NA ⁶	NA	NA	NA
	5/16/00	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1.0	<1.0	<1.0
	10/27/00	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1.0	<1.0	<1.0
	1/2/01	<50	<0.50	<0.50	<0.50	<0.50	<3.0	NA	NA	NA	NA
	8/13/04	<50	<0.50	<0.50	<0.50	<0.50	<1.0	<10	<1.0	<1.0	<1.0
	11/8/04	<50	<0.50	<0.50	<0.50	<0.50	<1.0	<10	<1.0	<1.0	<1.0
	11/19/05	<50	<0.50	<0.50	<0.50	<0.50	<1.0	<10	<1.0	<1.0	<1.0
	4/20/05	<50	<0.50	<0.50	<0.50	<0.50	<1.0	<10	<1.0	<1.0	<1.0
	7/6/05	<50	<0.50	<0.50	<0.50	<0.50	<1.0	<10	<1.0	<1.0	<1.0
MW-2	2/22/00	2,400	<5.0	<4.0	<4.0	3.0	NA	NA	NA	NA	NA
	5/16/00	1,500	<0.50	<0.50	<0.50	<0.50	2.2	<10	<1.0	<1.0	<1.0
	10/27/00	240	<0.50	<0.50	<0.50	<0.50	2.9	<10	<1.0	<1.0	<1.0
	1/2/01	820	<0.50	<0.50	<0.50	<0.50	3.2	NA	NA	NA	NA
	8/13/04	400	<0.50	<0.50	<0.50	<0.50	<1.0	<10	<1.0	<1.0	<1.0
	11/8/04	330	<0.50	<0.50	<0.50	<0.50	<1.0	<10	<1.0	<1.0	<1.0
	11/19/05	280	<0.50	<0.50	<0.50	<0.50	<1.0	<10	<1.0	<1.0	<1.0
	4/20/05	460	<0.50	<0.50	<0.50	<0.50	<1.0	<10	<1.0	<1.0	<1.0
	7/6/05	330	<0.50	<0.50	<0.50	<0.50	<1.0	<10	<1.0	<1.0	<1.0
MW-3	2/22/00	<50	<0.50	<0.50	<0.50	<0.50	4.5	NA	NA	NA	NA
	5/16/00	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1.0	<1.0	<1.0
	10/27/00	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1.0	<1.0	<1.0
	1/2/01	<50	<0.50	<0.50	<0.50	<0.50	<3.0	NA	NA	NA	NA
	8/13/04	<50	<0.50	<0.50	<0.50	<0.50	<1.0	<10	<1.0	<1.0	<1.0
	11/8/04	<50	<0.50	<0.50	<0.50	<0.50	<1.0	<10	<1.0	<1.0	<1.0
	11/19/05	<50	<0.50	<0.50	<0.50	<0.50	<1.0	<10	<1.0	<1.0	<1.0
	4/20/05	<50	<0.50	<0.50	<0.50	<0.50	<1.0	<10	<1.0	<1.0	<1.0
	7/6/05	<50	<0.50	<0.50	<0.50	<0.50	<1.0	<10	<1.0	<1.0	<1.0
MW-4	2/22/00	<50	<0.50	<0.50	<0.50	<0.50	5.3	NA	NA	NA	NA
	5/16/00	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1.0	<1.0	<1.0
	10/27/00	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1.0	<1.0	<1.0
	1/2/01	<50	<0.50	<0.50	<0.50	<0.50	<3.0	NA	NA	NA	NA
	8/13/04	<50	<0.50	<0.50	<0.50	<0.50	<1.0	<10	<1.0	<1.0	<1.0
	11/8/04	<50	<0.50	<0.50	<0.50	<0.50	<1.0	<10	<1.0	<1.0	<1.0
	11/19/05	<50	<0.50	<0.50	<0.50	<0.50	<1.0	<10	<1.0	<1.0	<1.0
	4/20/05	<50	<0.50	<0.50	<0.50	<0.50	<1.0	<10	<1.0	<1.0	<1.0
	7/6/05	<50	<0.50	<0.50	<0.50	<0.50	<1.0	<10	<1.0	<1.0	<1.0
	2/22/00	<50	<0.50	<0.50	<0.50	<0.50	NA	NA	NA	NA	NA
	5/16/00	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1.0	<1.0	<1.0
	10/27/00	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1.0	<1.0	<1.0
	1/2/01	<50	<0.50	<0.50	<0.50	<0.50	<3.0	NA	NA	NA	NA
	8/13/04	<50	<0.50	<0.50	<0.50	<0.50	<1.0	<10	<1.0	<1.0	<1.0
	11/8/04	<50	<0.50	<0.50	<0.50	<0.50	<1.0	<10	<1.0	<1.0	<1.0
	11/19/05	<50	<0.50	<0.50	<0.50	<0.50	<1.0	<10	<1.0	<1.0	<1.0
	4/20/05	<50	<0.50	<0.50	<0.50	<0.50	<1.0	<10	<1.0	<1.0	<1.0
	7/6/05	<50	<0.50	<0.50	<0.50	<0.50	<1.0	<10	<1.0	<1.0	<1.0

1. ug/L: micrograms per Liter

2. TPHG: Total Petroleum Hydrocarbons as Gasoline, analyzed in general accordance with EPA Method No. 8260B.

3. Benzene, Toluene, Ethylbenzene, and total Xylenes, analyzed in general accordance with EPA Method No. 8260B.

4. Fuel Oxygenates: MTBE (Methyl Tertiary-Butyl Ether), TBA (Tertiary-Butyl Alcohol), DIPE (Diisopropyl Ether), ETBE (Ethyl Tertiary-Butyl Ether), and TAME (Tertiary-Amyl Methyl Ether), analyzed in general accordance with EPA Method No. 8260B.

5. < denotes a value that is "less than" the laboratory method detection limit.

6. NA: Not Analyzed

Table B-3
Historic DO, DCO₂, and ORP Measurement Results
Branscomb Store, Branscomb, California

Sample Location	Date	DO ¹ (ppm) ²	DCO ₂ ³ (ppm)	ORP ⁴ (mV) ⁵
MW-1	5/16/00	0.80	40	235
	10/27/00	0.57	60	135
	1/2/01	0.63	30	98
	8/13/04	0.56	80	56
	11/8/04	0.90	40	125
	1/19/05	1.21	50	83
	4/20/05	0.76	40	202
	7/6/05	0.79	60	168
MW-2	5/16/00	0.49	50	-30
	10/27/00	0.50	70	-35
	1/2/01	0.58	70	82
	8/13/04	0.55	120	-102
	11/8/04	0.80	90	-20
	1/19/05	0.80	140	28
	4/20/05	0.63	120	-57
	7/6/05	0.78	120	-31
MW-3	5/16/00	0.58	20	140
	10/27/00	0.59	20	125
	1/2/01	1.68	30	83
	8/13/04	0.54	25	22
	11/8/04	1.43	30	109
	1/19/05	2.96	30	53
	4/20/05	2.07	30	218
	7/6/05	1.98	20	144
MW-4	5/16/00	0.53	20	175
	10/27/00	0.56	20	110
	1/2/01	2.54	20	65
	8/13/04	0.59	20	53
	11/8/04	1.34	20	108
	1/19/05	3.39	30	89
	4/20/05	1.01	30	216
	7/6/05	0.75	20	164

1. DO: Dissolved Oxygen, field measured using portable instrumentation

2. ppm: parts per million

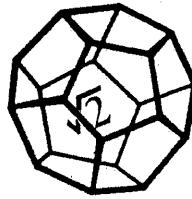
3. DCO₂: Dissolved Carbon Dioxide, field measured using a field test kit

4. ORP: Oxidation-Reduction Potential measured using portable instrumentation

5. mV: millivolts

Appendix C

Laboratory Analytical Report



**NORTH COAST
LABORATORIES LTD.**

July 20, 2005

SHN Consulting Engineers and Geologists
812 West Wabash Avenue
Eureka, CA 95501

Attn: Frans Lowman
RE: 092057, Branscomb Store

Order No.: 0507089
Invoice No.: 51456
PO No.:
ELAP No. 1247-Expires July 2006

SAMPLE IDENTIFICATION

Fraction Client Sample Description

01A	MW-4
02A	MW-3
03A	MW-1
04A	MW-2

ND = Not Detected at the Reporting Limit

Limit = Reporting Limit

All solid results are expressed on a wet-weight basis unless otherwise noted.

REPORT CERTIFIED BY

Laboratory Supervisor(s)

QA Unit

Jesse G. Chaney, Jr.
Laboratory Director

North Coast Laboratories, Ltd.

Date: 20-Jul-05

CLIENT: SHN Consulting Engineers and Geologists
Project: 092057, Branscomb Store
Lab Order: 0507089

CASE NARRATIVE

Gasoline Components/Additives:

Sample MW-2 does not present a peak pattern consistent with that of gasoline. The reported result represents the amount of material in the gasoline range.

Date: 20-Jul-05
WorkOrder: 0507089

ANALYTICAL REPORT

Client Sample ID: MW-4
Lab ID: 0507089-01A

Received: 7/7/05

Collected: 7/6/05 12:25

Test Name: Gasoline Components/Additives

Reference: LUFT/EPA 8260B Modified

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
Methyl tert-butyl ether (MTBE)	ND	1.0	µg/L	1.0		7/14/05
Tert-butyl alcohol (TBA)	ND	10	µg/L	1.0		7/14/05
Di-isopropyl ether (DIPE)	ND	1.0	µg/L	1.0		7/14/05
Ethyl tert-butyl ether (ETBE)	ND	1.0	µg/L	1.0		7/14/05
Benzene	ND	0.50	µg/L	1.0		7/14/05
Tert-amyl methyl ether (TAME)	ND	1.0	µg/L	1.0		7/14/05
Toluene	ND	0.50	µg/L	1.0		7/14/05
Ethylbenzene	ND	0.50	µg/L	1.0		7/14/05
m,p-Xylene	ND	0.50	µg/L	1.0		7/14/05
o-Xylene	ND	0.50	µg/L	1.0		7/14/05
Surrogate: 1,4-Dichlorobenzene-d4	98.7	80.8-139	% Rec	1.0		7/14/05

Test Name: TPH as Gasoline

Reference: LUFT/EPA 8260B Modified

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
TPHC Gasoline	ND	50	µg/L	1.0		7/14/05

Client Sample ID: MW-3

Received: 7/7/05

Collected: 7/6/05 12:35

Lab ID: 0507089-02A

Test Name: Gasoline Components/Additives

Reference: LUFT/EPA 8260B Modified

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
Methyl tert-butyl ether (MTBE)	ND	1.0	µg/L	1.0		7/14/05
Tert-butyl alcohol (TBA)	ND	10	µg/L	1.0		7/14/05
Di-isopropyl ether (DIPE)	ND	1.0	µg/L	1.0		7/14/05
Ethyl tert-butyl ether (ETBE)	ND	1.0	µg/L	1.0		7/14/05
Benzene	ND	0.50	µg/L	1.0		7/14/05
Tert-amyl methyl ether (TAME)	ND	1.0	µg/L	1.0		7/14/05
Toluene	ND	0.50	µg/L	1.0		7/14/05
Ethylbenzene	ND	0.50	µg/L	1.0		7/14/05
m,p-Xylene	ND	0.50	µg/L	1.0		7/14/05
o-Xylene	ND	0.50	µg/L	1.0		7/14/05
Surrogate: 1,4-Dichlorobenzene-d4	98.2	80.8-139	% Rec	1.0		7/14/05

Test Name: TPH as Gasoline

Reference: LUFT/EPA 8260B Modified

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
TPHC Gasoline	ND	50	µg/L	1.0		7/14/05

Page 1 of 2

Date: 20-Jul-05
WorkOrder: 0507089

ANALYTICAL REPORT

Client Sample ID: MW-1
Lab ID: 0507089-03A

Received: 7/7/05

Collected: 7/6/05 12:45

Test Name: Gasoline Components/Additives

Reference: LUFT/EPA 8260B Modified

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
Methyl tert-butyl ether (MTBE)	ND	1.0	µg/L	1.0		7/14/05
Tert-butyl alcohol (TBA)	ND	10	µg/L	1.0		7/14/05
Di-isopropyl ether (DIPE)	ND	1.0	µg/L	1.0		7/14/05
Ethyl tert-butyl ether (ETBE)	ND	1.0	µg/L	1.0		7/14/05
Benzene	ND	0.50	µg/L	1.0		7/14/05
Tert-amyl methyl ether (TAME)	ND	1.0	µg/L	1.0		7/14/05
Toluene	ND	0.50	µg/L	1.0		7/14/05
Ethylbenzene	ND	0.50	µg/L	1.0		7/14/05
m,p-Xylene	ND	0.50	µg/L	1.0		7/14/05
o-Xylene	ND	0.50	µg/L	1.0		7/14/05
Surrogate: 1,4-Dichlorobenzene-d4	98.0	80.8-139	% Rec	1.0		7/14/05

Test Name: TPH as Gasoline

Reference: LUFT/EPA 8260B Modified

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
TPHC Gasoline	ND	50	µg/L	1.0		7/14/05

Client Sample ID: MW-2

Received: 7/7/05

Collected: 7/6/05 12:55

Lab ID: 0507089-04A

Test Name: Gasoline Components/Additives

Reference: LUFT/EPA 8260B Modified

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
Methyl tert-butyl ether (MTBE)	ND	1.0	µg/L	1.0		7/15/05
Tert-butyl alcohol (TBA)	ND	10	µg/L	1.0		7/15/05
Di-isopropyl ether (DIPE)	ND	1.0	µg/L	1.0		7/15/05
Ethyl tert-butyl ether (ETBE)	ND	1.0	µg/L	1.0		7/15/05
Benzene	ND	0.50	µg/L	1.0		7/15/05
Tert-amyl methyl ether (TAME)	ND	1.0	µg/L	1.0		7/15/05
Toluene	ND	0.50	µg/L	1.0		7/15/05
Ethylbenzene	ND	0.50	µg/L	1.0		7/15/05
m,p-Xylene	ND	0.50	µg/L	1.0		7/15/05
o-Xylene	ND	0.50	µg/L	1.0		7/15/05
Surrogate: 1,4-Dichlorobenzene-d4	96.3	80.8-139	% Rec	1.0		7/15/05

Test Name: TPH as Gasoline

Reference: LUFT/EPA 8260B Modified

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
TPHC Gasoline	330	50	µg/L	1.0		7/15/05

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North Coast Laboratories, Ltd.

Date: 20-Jul-05

CLIENT: SHN Consulting Engineers and Geologists

Work Order: 0507089

Project: 092057, Branscomb Store

QC SUMMARY REPORT

Method Blank

Sample ID	MB 071405	Batch ID:	R25879	Test Code:	82600XYW	Units:	µg/L	Analysis Date	7/14/05 4:00:00 AM	Prep Date		
Client ID:		Run ID:		ORGCMSS3_050714A				SeqNo:	517128			
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)		ND	1.0									
Tert-butyl alcohol (TBA)		ND	1.0									
Di-isopropyl ether (DIPE)		ND	1.0									
Ethyl tert-butyl ether (ETBEE)		ND	1.0									
Benzene		ND	0.50									
Tert-amyl methyl ether (TAME)		ND	1.0									
Toluene		ND	0.50									
Ethylbenzene		0.1063	0.50									
m,p-Xylene		0.1617	0.50									
c-Xylene		ND	0.50									
1,4-Dichlorobenzene-d4		0.969	0.10	1.00	0	96.9%	81	139	0			
Sample ID	MB 071405	Batch ID:	R25884	Test Code:	GASW-MS	Units:	µg/L	Analysis Date	7/14/05 4:00:00 AM	Prep Date		
Client ID:		Run ID:		ORGCMSS3_050714B				SeqNo:	517201			
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPHC Gasoline		21.30	50									J

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

North Coast Laboratories, Ltd.

Date: 20-Jul-05

CLIENT: SHN Consulting Engineers and Geologists

Work Order: 0507089

Project: 092057, Transcomb Store

QC SUMMARY REPORT
Laboratory Control Spike

Sample ID	LCS-05449	Batch ID:	R35879	Test Code:	82600XYW	Units: µg/L		Analysis Date	7/4/05 12:36:00 PM	Prep Date		
Client ID:				Run ID:	ORGCMSS_050714A			SeqNo:	517125			
Analyte		Result	Limit	SPK Value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	% RPD	RPD Limit	Qual
Methyl tert-butyl ether (MTBE)		20.59	1.0	20.0	0	103%	80	120	0	0		
Ter-butyl alcohol (TBA)		367.1	10	400	0	91.8%	25	162	0	0		
Di-isopropyl ether (DIPE)		21.45	1.0	20.0	0	107%	80	120	0	0		
Ethyl tert-butyl ether (ETBEE)		21.32	1.0	20.0	0	107%	77	120	0	0		
Benzene		21.59	0.50	20.0	0	108%	78	117	0	0		
Tert-amyI methyl ether (TAME)		20.72	1.0	20.0	0	104%	64	136	0	0		
Toluene		19.47	0.50	20.0	0	97.4%	80	120	0	0		
Ethybenzene		18.89	0.50	20.0	0	94.4%	80	120	0	0		
m,p-Xylene		37.86	0.50	40.0	0	94.7%	80	120	0	0		
o-Xylene		18.64	0.50	20.0	0	93.2%	80	120	0	0		
1,4-Dichlorobenzene-d4		1.07	0.10	1.00	0	107%	81	139	0	0		
Sample ID	LCS-05449	Batch ID:	R35879	Test Code:	82600XYW	Units: µg/L		Analysis Date	7/4/05 1:02:00 AM	Prep Date		
Client ID:				Run ID:	ORGCMSS_050714A			SeqNo:	517126			
Analyte		Result	Limit	SPK Value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	% RPD	RPD Limit	Qual
Methyl tert-butyl ether (MTBE)		20.67	1.0	20.0	0	103%	80	120	20.6	0.393%	20	
Ter-butyl alcohol (TBA)		380.4	10	400	0	95.1%	25	162	367	3.55%	20	
Di-isopropyl ether (DIPE)		21.36	1.0	20.0	0	107%	80	120	21.4	0.419%	20	
Ethyl tert-butyl ether (ETBEE)		21.32	1.0	20.0	0	107%	77	120	21.3	0.0661%	20	
Benzene		21.29	0.50	20.0	0	106%	78	117	21.6	1.43%	20	
Tert-amyI methyl ether (TAME)		20.92	1.0	20.0	0	105%	64	136	20.7	0.962%	20	
Toluene		19.02	0.50	20.0	0	95.1%	80	120	19.5	2.34%	20	
Ethybenzene		18.54	0.50	20.0	0	92.7%	80	120	18.9	1.87%	20	
m,p-Xylene		37.49	0.50	40.0	0	93.7%	80	120	37.9	0.976%	20	
o-Xylene		18.16	0.50	20.0	0	90.8%	80	120	18.6	2.58%	20	
1,4-Dichlorobenzene-d4		1.06	0.10	1.00	0	106%	81	139	1.07	0.794%	20	

Qualifiers:

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R - RPD outside accepted recovery limits

CLIENT: SHN Consulting Engineers and Geologists
Work Order: 0507089
Project: 092057, Transcomb Store

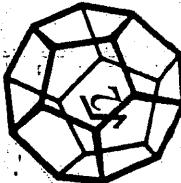
QC SUMMARY REPORT
Laboratory Control Spike

Sample ID	LCS-05450	Batch ID:	R35884	Test Code:	GASW-MS	Units:	µg/L	Analysis Date 7/14/05 2:18:00 AM			Prep Date	
Client ID:				Run ID:	ORGCMSS3_050714B			SeqNo:	517198			
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	Low limit	High limit	RPD Ref Val	% RPD	RPD Limit	Qual
TPHC Gasoline		920.0	50	1,000	0	92.0%	80	120	0			
Sample ID	LCSD-05450	Batch ID:	R35884	Test Code:	GASW-MS	Units:	µg/L	Analysis Date 7/14/05 2:44:00 AM			Prep Date	
Client ID:				Run ID:	ORGCMSS3_050714B			SeqNo:	517199			
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	Low limit	High limit	RPD Ref Val	% RPD	RPD Limit	Qual
TPHC Gasoline		903.3	50	1,000	0	90.3%	80	120	920	1.84%	20	

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank



NORTH COAST
LABORATORIES LTD.

6680 West End Road • Arcata • CA 95521-9202
707-822-4649 Fax 707-822-5921

Chain of Custody

680 West End Road : Arcata : CA 95521-9202
707-822-4618 Fax 707-822-6831

Attention:	<u>Frans Lowman</u>
Results & Invoice to:	<u>SHN</u>
Address:	<u>812 West Wabash Avenue</u>
	<u>Eureka, CA 95501</u>
Phone:	<u>441-8855</u>
Copies of Report to:	
Sampler (Sign & Print):	<u>David R. Fair</u>
PROJECT INFORMATION	
Project Number:	<u>092057</u>
Project Name:	<u>Bear Scomb Store</u>
Purchase Order Number:	

LABORATORY NUMBER:			
<input checked="" type="checkbox"/> 24 Hr	<input type="checkbox"/> 48 Hr	<input type="checkbox"/> 5 Day	<input type="checkbox"/> 5-7 Day
<input checked="" type="checkbox"/> STD (2-3 Wk)	<input type="checkbox"/> Other: _____		
PRIOR AUTHORIZATION IS REQUIRED FOR RUSHES			
REPORTING REQUIREMENTS:		State Forms <input type="checkbox"/>	
Preliminary:	<input type="checkbox"/> FAX	<input type="checkbox"/> Verbal	By: _____ / _____
Final Report:	<input type="checkbox"/> FAX	<input type="checkbox"/> Verbal	By: _____ / _____
CONTAINER CODES: 1—1/2 gal. pt; 2—250 ml pt; 3—500 ml pt; 4—1 L Nalgene; 5—250 ml BG; 6—500 ml BG; 7—1 L BG; 8—1 L eg; 9—40 ml VOA; 10—125 ml VOA; 11—4 oz glass jar; 12—8 oz glass jar; 13—brass tube; 14—other			
PRESERVATIVE CODES: a—HNO ₃ ; b—HCl; c—H ₂ SO ₄ ; d—Na ₂ S ₂ O ₃ ; e—NaOH; f—C ₂ H ₅ Cl; g—other			
SAMPLE CONDITION/SPECIAL INSTRUCTIONS			
<i>E11r</i>			
<i>Global ID # T0604500186</i>			
<i>Color temp = 3.9 C</i>			
SAMPLE DISPOSAL		<input checked="" type="checkbox"/> NCL Disposal of Non-Contaminated	
		<input type="checkbox"/> Return	
		<input type="checkbox"/> Pickup	
		<input type="checkbox"/> Fed-Ex	
		<input checked="" type="checkbox"/> Busch Hand	
CHAIN OF CUSTODY SEALS Y/N/NA			
SHIPPED VIA: UPS Air-Ex			

MATRIX: DW=Drinking Water; Eff=Effluent; Inf=Influent; SW=Ground Water; S=Soil; O=Other.